

REMARKS/ARGUMENTS

Claims 1-33 are pending in this application. Claims 22 and 24 are amended to correct an inadvertent error in claim language to reflect a proper Markush group. Claims 1-2, 5, 15-17, 21, 23, 30, and 33 are amended, Claims 3 and 18 are canceled, and Claims 39-40 are added by way of the present amendment to place the application in better condition for appeal.

Claim Rejections - 35 USC § 112

The rejection of Claims 22, 24-26 under 35 U.S.C. 112, second paragraph, as being indefinite due to improper Markush group claim language has been corrected in the amendments to Claims 22 and 24.

Claim Rejections - 35 USC § 102

The rejection of claims 1, 7, 12-16, 22, and 27-28 under 35 U.S.C. §102(b) as being anticipated by Pechhold (U.S. Patent No. 5,356,689) is respectfully traversed based on the amendments to Claims 1 and 16.

Pechhold '689 describes stain-resist compositions and processes for treating polyamide substrates (column 2 lines 14-17). In particular, Pechhold describes a stain-resist composition that contains methacrylic acid polymer with a water-dispersed epoxy resin (column 2 lines 19-25). In addition, the epoxy group is used as a crosslinking agent and locks the methacrylic acid polymer in or onto the polyamide fiber (column 2 lines 25-31).

However, Pechhold '689 nowhere discloses, as recited in amended claim 1:

a crosslinking agent comprising at least one polymer
having *two hydroxyl-terminated groups* (emphasis added)

The crosslinking agent taught by Pechhold is an epoxy resin (column 2 lines 26-32), and the general structures of the epoxy resin useful for the invention set forth in Pechhold '689 are shown in Col. 4, Formulas I, II and III. None of the general structures correspond to two hydroxyl-terminated groups, and for that reason the stain-resist composition of the instant invention is clearly distinguishable from the compositions described by Pechhold '689.

Similarly, Pechhold '689 does not teach the process for imparting to a polyamide substrate resistance to staining using a composition that contains two hydroxyl-terminated groups as defined in Applicant's amended claim 16. Claims 7, 12-15, and 27-28 are dependent upon claim 1 or claim 16. Thus, it is respectfully submitted that Pechhold '689

does not anticipate or inherently teach the material limitations of the instant invention, and the instant rejection under 35 U.S.C. §102(b) should be withdrawn. Favorable reconsideration is respectfully requested.

Claim Rejections - 35 USC § 103

The rejection of claims 8 and 23 under 35 U.S.C. §103(a) as being unpatentable over Pechhold (U.S. Patent No. 5,356,689) in view of Elgarhy (U.S. Patent No. 6,207,594) is respectfully traversed.

The relevance of Pechhold '689 has been discussed above. Pechhold '689 does not anticipate the material limitations of the instant claims, and it teaches epoxy resin as a crosslinking agent. Unlike the instant invention that defines the crosslinking agent as having two hydroxyl-terminated groups, the epoxy crosslinking agent does not contain two hydroxyl-terminated groups. Furthermore, there is no suggestion in Pechhold '689 to use a crosslinking agent having *two hydroxyl-terminated groups*, and such a suggestion should not be inferred absent a clear teaching as to two hydroxyl-terminated groups. In addition, Pechhold '689 is silent as to the molecular weight of polymethacrylic acids and does not teach the claimed number average molecular weight of 300,000 or above.

Elgarhy, the secondary reference, teaches the use of a combination of methacrylic acid polymer with partially sulfonated resol resin for a wet cleaning process (column 2, line 66 to column 3, line 5). In particular, Elgarhy describes suitable methacrylic acid polymers as those with high *weight* average molecular weight in the range of from 100,000 to 500,000 (column 3 lines 32-35). The Examiner cited Elgarhy's disclosure on weight average molecular weight of polymethacrylic acid from column 3 lines 32-35, and missed "*weight*" before "average molecular weight (Official Action Summary on 07/07/2006, page 4). As described in Applicant's response to the first Office Action, for a high molecular weight polymer, the ratio of *weight* average molecular weight to *number* average molecular weight is about 2. If we convert the *weight* average molecular weight of 100,000 to 500,000 described by Elgarhy into the *number* average molecular weight, the *number* average molecular weight falls to from 50,000 to 250,000, which is much less than 300,000 value of the instant invention. In fact, Elgarhy does disclose the *number* average molecular weight of polymethacrylic acid that is typically 50,000 to 100,000 (column 3 line 37). Thus, the methacrylic acid polymer disclosed in claims 8 and 23 is totally different from those described by Elgarhy. Also, there is nothing in the record, absent impermissible hindsight, to

suggest that one of ordinary skill in the art would have been motivated to combine the teachings of the two references.

In view of the foregoing remarks, reconsideration and withdrawal of the instant rejection is respectfully requested.

The rejection of claims 2-4, 6, 9-11, 17-20 and 24-26 under 35 U.S.C. §103(a) as being unpatentable over Pechhold (U.S. Patent No. 5,707,708) in view of Flat et al. (U.S. Patent No. 5,993,965) is respectfully traversed based on the amendments to Claims 1 and 16.

Flat et al. is directed to protection of fibers by depositing onto the fibers an epoxidized polydiene oligomer, a photoinitiator salt, and a reactive diluent (column 2 lines 12-22). The oligomer is further cationically photo-polymerized on the fibers to form a polymer. In contrast, the instant invention defines a polybutadiene oligomer that covalently binds the stain-resist composition onto the fibrous polyamide substrate. That is, the chemical composition according to the instant invention is totally distinguishable from the coating polymer disclosed by Flat et al. Furthermore, Flat et al. does not explicitly or implicitly teach coating the fibers using polybutadiene oligomers without photo-polymerization.

As noted by the Examiner, Pechhold '708 does not teach stain resistant compositions and methods that includes epoxidized polybutadienes.

Therefore, it would not have been obvious for one of ordinary skill in the art to modify the stain resistant compositions described by Pechhold '708 with the photo-polymer taught by Flat et al. and have a reasonable expectation of achieving the invention discovered by Applicant. Flat et al. does not teach or suggest the treatment of fibers of polybutadiene oligomer covalently reacted with any stain resistant compositions. Pechhold '708 by itself is not an effective primary reference to support the rejection of dependant claims 2-4, 6, 9-11, 17-20 and 24-26 under 35 U.S.C. §103(a). Reconsideration and withdraw of the instant rejection is respectfully requested.

Objection

Applicant has respectfully amended Claims 5 and 21 as independent claims based on the suggestions of the Examiner to overcome the objections. Claims 5 and 21 are believed to be in a form for allowance.

Application No. 10/808,814
Docket: RD8510USNA

CONCLUSION

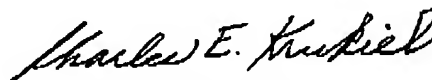
It is believed that the foregoing amendment and remarks constitute a complete response to the Examiner's FINAL Action dated July 7, 2006, and place this application in condition for allowance. Entry of the Amendment with a timely Advisory Action is respectfully requested.

Should the Examiner have any questions regarding this Amendment, or the remarks contained herein, Applicant's attorney would welcome the opportunity to discuss such matters with the Examiner. Applicant believes no extra fees are due with this request. However, if additional fees are required, please charge or credit the balance to Deposit Account 50-3223 (Invista North America S.à r.l.).

Date:

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Respectfully submitted,



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